

Application No. 09/676,402
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. - 17 (Cancelled herein)

18. (Amended herein) A method of evaluating a tentative location for a fixed subscriber communication site of a wireless communication system using a wireless testing system, said wireless testing system comprising ~~an antenna positionable at said location for said fixed subscriber communication site~~ a testing antenna for communicating said wireless communication signals with said a transmit antenna and a receive antenna at a base station, an adjustable mount associated with said testing antenna for orienting said testing antenna in a plurality of pan orientations and a plurality of tilt orientations, an adjustable boom attached to said adjustable mount for positioning said testing antenna at a plurality of heights, a signal measuring device associated with said testing antenna and a signal attenuator associated with said testing antenna, said method comprising:
~~at said location, positioning said antenna at a set height of said plurality of heights, at a set pan orientation of said plurality of pan orientations and at a set tilt orientation of said plurality of tilt orientations;~~

at said tentative location

a) positioning said testing antenna such that an angle α defined by said testing antenna as a vertex between said transmit and receive antennae is 1.5 degrees or less;

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~~evaluating characteristics~~ b) adjusting tilt, pan, and height of said testing antenna to exchange wireless communication signals transmitted by said base station and received by said signal measuring device; with said transmit and receive antennae; and

c) measuring a characteristic of said wireless communication signals received by said testing antenna by integrating a power signal of said wireless communication signals across a frequency band associated with said wireless communication signals;

d) attenuating said wireless communication signals until said signal measuring device testing antenna no longer receives said wireless communication signals transmitted by from said base station transmit antenna;

e) calculating ambient atmospheric and meteorological conditions corresponding to said amount of attenuation based on the a distance between said testing antenna and said base station; and

f) comparing said calculations of said ambient atmospheric and meteorological conditions to a predetermined threshold level required to maintain a level of service required for communications with said base station when said ambient atmospheric and meteorological conditions exist;

wherein, if said level of attenuation exceeds said threshold level, said ~~antenna placement~~ at tentative location for said fixed subscriber communication site is acceptable.

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19. - 25. (Cancelled herein)

26. (Amended herein) A method of establishing an optimal location for a fixed subscriber communication site for a base station having a transmit antenna and a receive antenna, comprising:

at each of a plurality of a tentative locations: location for said fixed subscriber communication site

- a) placing a wireless testing system comprised of an antenna and a communication unit; positioning a testing antenna such that an angle α defined by said testing antenna as a vertex between said transmit and said receive antennae is 1.5 degrees or less;
- b) adjusting tilt, pan, and height of said testing antenna to exchange wireless communication signals between each of with said plurality of tentative locations transmit and said base station; receive antennae; and
- c) for each tentative location, measuring a characteristic of said wireless communication signals with said communication unit; and
- d) selecting one of said plurality of tentative locations as said optimal location if said characteristic thereof is better than the characteristics measured in all other tentative locations.

27. (Amended herein) The method of establishing an optimal location for a fixed subscriber communication site, as claimed in claim 26 wherein

said characteristic is the power of said wireless communication signals integrated over the frequency band associated with said wireless communication signals.

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said testing antenna, receive antenna and transmit are located relative to each

other to form a right angle triangle;

$\tan \alpha$ is less than or equal to a ratio comprising

a numerator comprising a distance from said receive antenna to said

transmit antenna; and

a denominator comprising a distance from said testing antenna to one of

said receive antenna and said transmit antenna.

28. (Amended herein) The method as claimed in claim 26, ~~further comprising~~
~~establishing an optimal spot for said antenna at each of said plurality of tentative~~
~~locations 27, wherein said characteristic is power of said wireless communication signals~~
~~integrated over a frequency band associated with said wireless communication signals.~~

29. (Amended herein) The method as claimed in claim 28, ~~wherein said step of~~
~~establishing an optimal spot comprises:~~ further comprising
attenuating said wireless communication signals until said testing antenna
receives practically none of said wireless communication signals transmitted by
said base station;
determining calculating ambient atmospheric and meteorological conditions
corresponding to said amount of attenuation based on a distance d between each
of said plurality of tentative locations and said testing antenna and said base
station; and

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~~determining an offset l between a location of transmit and receive antennae at said base station; and~~

~~adjusting positioning of said antenna based on receive and transmit signal strengths measured by said communication unit, whenever an angle α provided by $\tan \alpha = l/d$ is greater than 1.5° .~~

comparing said ambient atmospheric and meteorological conditions to a predetermined threshold level required to maintain a level of service required for said testing antenna to communicate with said base station when said ambient atmospheric and meteorological conditions are present between said base station and said testing antenna.

30. (New) The method as claimed in claim 26, further comprising

repeating steps a), b) and c) at second location;

comparing characteristics measured at said tentative location and said second location; and

selecting one of said tentative location and said second location as said optimal location based on said step of comparing characteristics.

31. (New) The method as claimed in claim 26, further comprising variably attenuating said wireless communication signals before evaluating said characteristics of said wireless communication signals to simulate ambient atmospheric and meteorological conditions around said wireless testing system.